Page 6, line 15, cancel "%" and insert a degree sign so that it reads --45°--.

Page 6, line 15, change "as" to --is--; and after "shown" insert --at 46--.

Page 6, line 17, change "crustal" to --crystal--; and line 18, delete "structure".

Page 7, line 1, after "retarder" insert --44--.

Page 7, line 2, change "beans" to --beams--.

Page 7, line 20, after "are" insert --orthogonally polarized, particularly--.

Page 8, line 17, after "Accordingly" insert a comma.

Page 9, line 5, change "upper" to --super--.

In the Claims:

Cancel Claims 1-28.

Please add new Claims 29-42:

29.   A system for imaging a section of a medium which receives and returns light from the section and from sites adjacent to the section, said system comprising:

optics for directing light in beams of different polarization in said medium along an imaging plane and collecting returned light from the medium; and

means for generating an image of the section from said returned light in response to a polarization parameter of said returned light.

30.   The system according to Claim 29 wherein said beams are capable of overlapping in said medium to reduce the part of said returned light from the sites adjacent said section.

31.   The system according to Claim 29 wherein said beams are incident said medium at spots spaced in at least one direction along an imaging plane.

32.   The system according to Claim 29 wherein said polarization parameter is the degree of rotation of the polarization of said returned light.

33.   The system according to Claim 29 wherein said polarization parameter is a function of the differential circular dichroism or optical activity of the returned light.

34.   A method for imaging a section of a medium which receives and returns light from the section and from sites adjacent to the section, said method comprising the steps of:

directing light in beams of different polarization in said medium along an imaging plane;

collecting returned light from the medium; and

generating an image of the section from said returned light in response to a polarization parameter of said returned light.

35.   The method according to Claim 34 wherein said beams are capable of overlapping in said medium to reduce the part of said returned light from the sites adjacent said section.

36.   The method according to Claim 34 wherein said beams are incident said medium at spots spaced in at least one direction along an imaging plane.

37.   The method according to Claim 34 wherein said polarization parameter is the degree of rotation of the polarization of said returned light.

38.   The method according to Claim 34 wherein said polarization parameter is a function of the differential circular dichroism or optical activity of the returned light.

39.   An optical coherence imaging system comprising:

a source providing light which is of low coherence;

optics which directs the light from said source into a reference arm and a sample arm to an image plane in a specimen section;

a polarization separator which shears said light into two beams;

a polarization retarder between said separator and said specimen providing said sheared beams each with an opposite sense of generally orthogonal polarization;

an objective for focusing said two beams at spots spaced from each other in said image plane, which beams overlap outside the vicinity of said image plane;

a detection arm into which light is directed by said beam splitter from said reference and sample arms; and

means for providing images in response to interference of light in said detection arm.

40.   The system according to Claim 39 wherein said optics comprise:

a beam splitter for directing light into a reference arm and a sample arm to an image plane; and

a scanner for scanning light of the sample arm in said plane in one or more directions.